TECHNICAL MEMORANDUM

Date: December 15, 2011

Project No.: 013164611A.800

To: Will Ernst

Company: Boeing

From: Scott Matthees

cc: Kent Angelos & Ted Norton (Golder) ,

Email:

RE: COMPLETION OF ISOLATION PAD, BUILDING 2-88

1.0 INTRODUCTION

The Boeing Company (Boeing) completed concrete removal and grading activities associated with the construction of an isolation pad in Building 2-88 at Plant 2 in late November (Figures 1 & 2). The new isolation pad was installed as the foundation for a new machine. The project required the demolition and removal of a 6-foot wide by 8-foot long section of concrete flooring and foundations, re-grading of the bedding materials beneath the concrete, and placement of concrete for the new isolation pad that measures approximately 5.2 feet wide (east to west) by 7.3 feet long (north to south) by 18 inches thick.

The construction area for the new foundation is located within RCRA unit SWMU 2-89.68, Reclamation Yard. The reclamation yard was used from 1942 to 1996. The yard consisted of approximately 8 acres of buildings and pavement located in the southeastern corner of the South Yard Area (Figures 1 and 2). The reclamation yard stored recyclable materials, which included aluminum, brass, steel, and copper shavings generated from cutting operations. The reclamation yard also recycled a variety of products including film, bulk metal, empty drums, and paint. Coolant and oils were often associated with the scrap metal.

Building 2-88 was constructed in 1999/2000. During the site grading and construction of the building and machine foundations, soil constituents of concern (COCs) were evaluated with respect to the preliminary media cleanup levels (PMCLs) and the soil was remediated in accordance with those standards. As a result of the prior remediation, site grading, and excavation for machine foundations, it was anticipated that the shallow soils encountered in the excavation for the isolation pad would consist of clean fill and bedding materials that were placed when the building was constructed.

2.0 EXCAVATION

The excavation for the isolation pad had a depth of approximately 1.5 feet below ground surface (bgs). Groundwater was not encountered in the excavation. The demolition of the concrete floor slab and foundation resulted in the removal of approximately 3 cubic yards of concrete materials. Clean bedding materials were encountered beneath the concrete. No bedding materials were removed from the excavation. The bedding materials were re-graded to conform to the shape of the new isolation pad that had thickened edges around its perimeter. The concrete that was removed from the excavation was properly managed for characterization and disposal.

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3.0 SOIL ANALYTICAL DATA

A preconstruction review of historical analytical data indicated that one boring (SB-08715) was completed in 1995 within a 25-foot radius of the location of the isolation pad (Figures 1 and 2). Soil samples were collected in the boring at depths of 2, 7, and 9.5 feet bgs. No groundwater samples were collected.

The soil samples were analyzed for polychlorinated biphenyls (PCBs) and total petroleum hydrocarbons (TPH). The soil analytical data were compared to the approved Target Media Cleanup Levels (TMCLs) to determine potential COCs that may be encountered during construction. The analytical results indicated that no COCs were detected in any of the samples, with the exception of TPH detected in the 7-foot bgs sample in a concentration of 51 mg/kg, well below the TPH TMCL of 2,000 mg/kg. The soil analytical results were presented in Table 1 of the Technical Memorandum *Isolation Pad, Building 2-88* (Golder, November 2011.

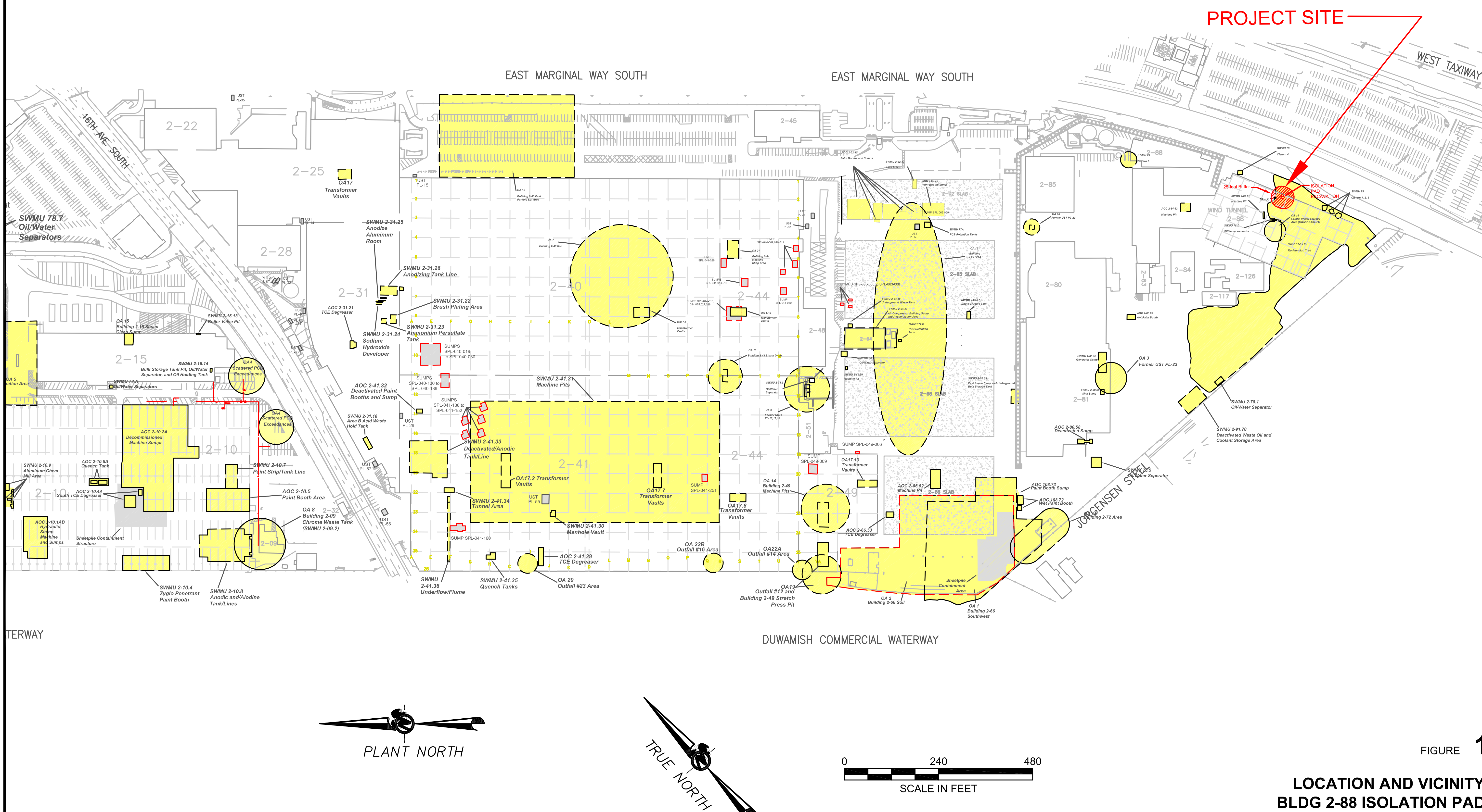
4.0 CONSTRUCTION SUPPORT ACTIVITIES

No preconstruction soil sampling was conducted as it was anticipated that only concrete, clean fill and bedding materials would be encountered during demolition and shallow excavation for the installation of the isolation pad. Construction support activities included visual and olfactory monitoring of the concrete materials as they were removed. Exposed bedding materials were also monitored for signs of contamination, and a photoionization detector was used to screen the concrete and exposed bedding materials for VOCs. No evidence of contamination was detected in the concrete or bedding materials,

Attachments or Enclosures:

LIST OF FIGURES

Figure 1 – Location and Vicinity, Bldg 2-88 Isolation Pad
Figure 2 – Bldg 2-88 Isolation Pad Excavation Area



PROJECT SITE
WEST TAXIWAY
EAST MARGINAL WAY SOUTH
EAST MARGINAL WAY SOUTH
16TH AVE. SOUTH
DUWAMISH COMMERCIAL WATERWAY
TERWAY
JORGENSEN STEEL
25-foot Buffer
ISOLATION PAD EXCAVATION
SWMU 79 Cistern 4
SWMU 79 Cistern 1, 2, 3
SWMU 79 Cistern 5
SWMU 2-87.65 Machine Pit
OA 16 Central Waste Storage Area (SWMU 2-104.71)
SWMU 78.D Oil/Water separator
WIND TUNNEL
2-88
2-85
2-84
2-126
2-117
2-83
2-80
2-81
OA 10 Former UST PL-20
AOC 2-84.62 Machine Pit
AOC 2-86.63 Wet Paint Booth
SWMU 2-80.57 Generator Sump
SWMU 2-80.56 Sink Sump
OA 3 Former UST PL-23
SWMU 2-78.1 Oil/Water Separator
SWMU 2-91.70 Deactivated Waste Oil and Coolant Storage Area
AOC 2-80.58 Deactivated Sump
SWMU 73.5 Oil/Water Seperator
AOC 108.73 Paint Booth Sump
AOC 108.72 Wet Paint Booth
Building 2-72 Area
OA 1 Building 2-66 Southwest
Sheetpile Containment Area
OA 2 Building 2-66 Soil
AOC 2-66.52 Machine Pit
2-66 SLAB
AOC 2-66.53 TCE Degreaser
OA17.13 Transformer Vaults
SUMP SPL-049-006
SUMP SPL-049-009
OA 14 Building 2-49 Machine Pits
2-49
OA22A Outfall #14 Area
OA19 Outfall #12 and Building 2-49 Stretch Press Pit
OA 22B Outfall #16 Area
OA17.8 Transformer Vaults
2-44
2-51
2-48
2-64
2-62 SLAB
2-63 SLAB
2-65 SLAB
AOC 2-62.45 Paint Booths and Sumps
SWMU 2-62.43 Tank Line
AOC 2-62.46 Paint Booths Sump
SUMP SPL-062-009
SWMU 77A PCB Retention Tanks
UST PL-59
OA 12 Building 2-63 Area
SUMPS SPL-063-006 to SPL-063-008
SWMU 2-64.48 Underground Waste Tank
SWMU 2-64.49 Air Compressor Building Sump and Accumulation Area
SWMU 77.B PCB Retention Tank
SWMU 2-63.47 Dilute Chrome Tank
SWMU 78.6 Oil/Water Separator
SWMU 2-65.50 Machine Pit
SWMU 2-70.55 East Steam Clean and Underground Bulk Storage Tank
SWMU 2-78.6 Oil/Water Separator
OA 9 Former USTs PL-16,17,18
OA 13 Building 2-44 Steam Drain
UST PL-38
UST PL-37
SUMPS SPL-044-009,010,011
OA 21 Building 2-44 Machine Shop Area
SUMP SPL-044-029
SUMPS SPL-044-014,015
SUMPS SPL-044-018, 024,025,027,028
SUMP SPL-044-030
OA 17.6 Transformer Vaults
OA 7 Building 2-40 Soil
2-40
OA17.5 Transformer Vaults
OA 18 Building 2-40 East Parking Lot Area
SWMU 2-41.31 Machine Pits
2-41
SWMU 2-41.33 Deactivated/Anodic Tank/Line
OA17.2 Transformer Vaults
OA17.7 Transformer Vaults
SUMP SPL-041-251
UST PL-55
SWMU 2-41.34 Tunnel Area
SWMU 2-41.30 Manhole Vault
SUMP SPL-041-160
AOC 2-41.29 TCE Degreaser
OA 20 Outfall #23 Area
SWMU 2-41.35 Quench Tanks
SWMU 2-41.36 Underflow/Flume
SUMPS SPL-041-138 to SPL-041-152
SUMPS SPL-040-130 to SPL-040-139
SUMPS SPL-040-019 to SPL-040-030
AOC 2-41.32 Deactivated Paint Booths and Sump
SWMU 2-31.18 Area B Acid Waste Hold Tank
UST PL-29
UST PL-57
UST PL-56
UST PL-15
UST PL-14
UST PL-35
2-22
2-25
2-28
2-31
2-15
2-10
2-09
2-32
OA17 Transformer Vaults
SWMU 2-31.25 Anodize Aluminum Room
SWMU 2-31.26 Anodizing Tank Line
SWMU 2-31.22 Brush Plating Area
SWMU 2-31.23 Ammonium Persulfate Tank
SWMU 2-31.24 Sodium Hydroxide Developer
AOC 2-31.21 TCE Degreaser
SWMU 78.7 Oil/Water Separators
SWMU 2-15.13 Boiler Valve Pit
OA 15 Building 2-15 Steam Clean Sump
SWMU 2-15.14 Bulk Storage Tank Pit, Oil/Water Separator, and Oil Holding Tank
SWMU 78.A Oil/Water Separators
OA 5
OA4 Scattered PCB Exceedances
OA4 Scattered PCB Exceedances
AOC 2-10.2A Decommissioned Machine Sumps
SWMU 2-10.9 Aluminum Chem Mill Area
AOC 2-10.6A Quench Tank
AOC 2-10.4A South TCE Degreaser
SWMU 2-10.7 Paint Strip/Tank Line
AOC 2-10.5 Paint Booth Area
OA 8 Building 2-09 Chrome Waste Tank (SWMU 2-09.2)
AOC 2-10.1AB Hydraulic Stamp Machine and Sumps
Sheetpile Containment Structure
SWMU 2-10.4 Zyglo Penetrant Paint Booth
SWMU 2-10.8 Anodic and/Alodine Tank/Lines
PLANT NORTH
TRUE NORTH
0
240
480
SCALE IN FEET

FIGURE 1

LOCATION AND VICINITY
BLDG 2-88 ISOLATION PAD
Boeing/Plant 2 Construction Support/Wa

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V:\PROJECTS_2001 PROJECTS\013-1646 Boeing - Plant 2_Angelos\Bldg 2-88 Isolation Pad\2-88 Isolation Pad.dwg | Fig 1 Vicinity | Mod: 11/16/2011, 11:03 | Plotted: 11/16/2011, 11:12 | smatthees

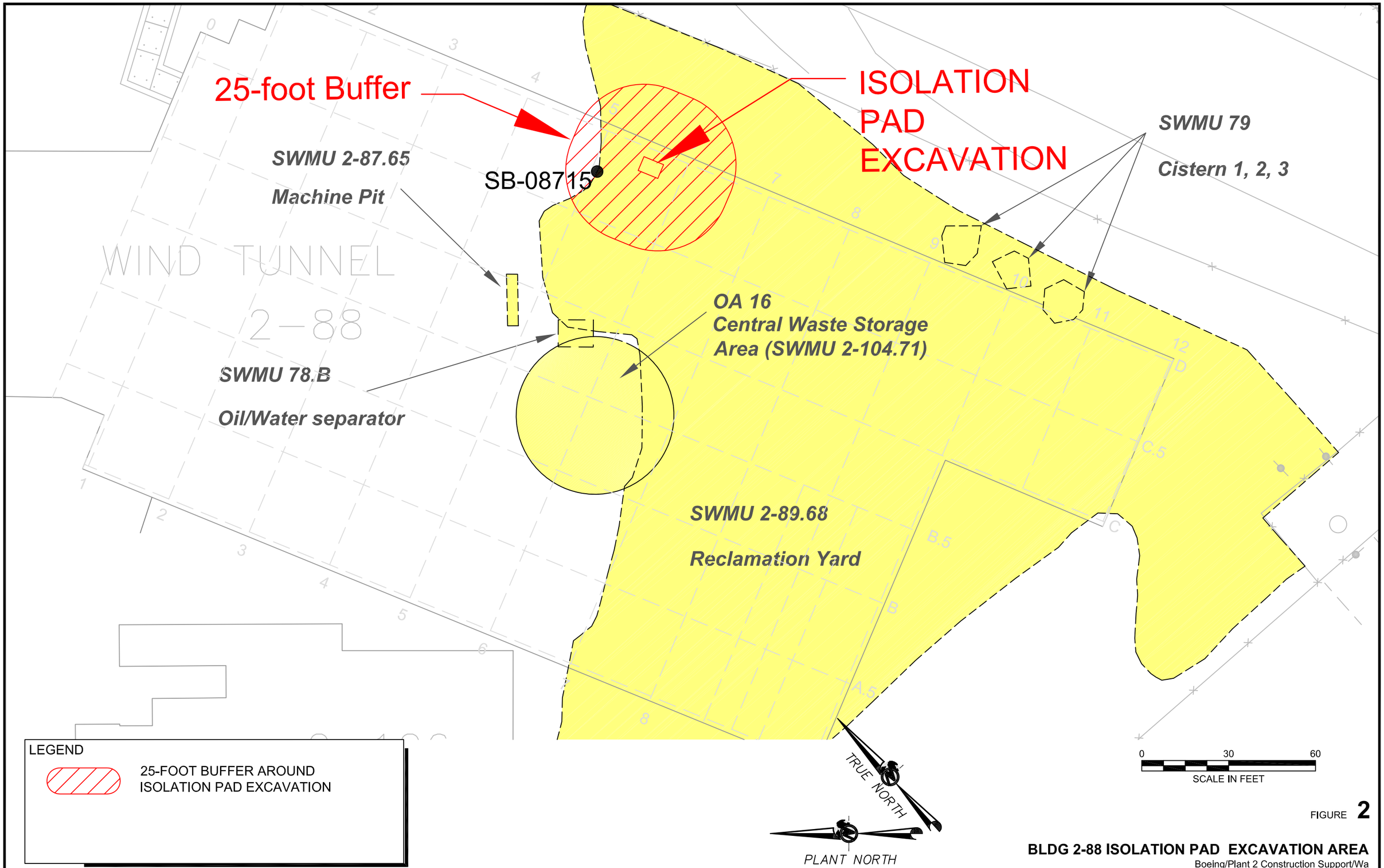

FIGURE **2**

BLDG 2-88 ISOLATION PAD EXCAVATION AREA

Boeing/Plant 2 Construction Support/Wa

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